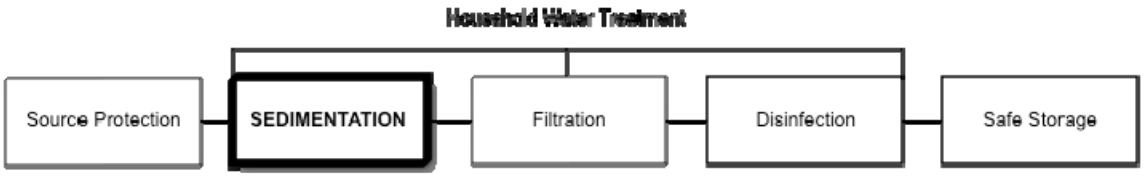
Centre for Affordable Water and Sanitation Technology

Household Water Treatment and Safe Storage Fact Sheet: Chemical Coagulants

The Treatment Process



Potential Treatment Capacity

Highly Effective For:	Somewhat Effective For:	Not Effective For:
• Turbidity	• Bacteria • Viruses • Protozoa • Helminths • Hardness • Taste, odour, colour	• Chemicals

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How Does it Work?

The sedimentation process can be quickened by adding special chemicals, also known as coagulants, to the water. Coagulants help the sand, silt and clay join together and form larger clumps, making it easier for them to settle to the bottom of the container.

Common chemicals used are aluminium sulphate (alum), polyaluminium chloride (PAC or liquid alum) and iron salts (ferric sulphate or ferric chloride).

Effectiveness

- Quality: Effective for removing turbidity and somewhat effective for pathogens; varies depending on the water
- Quantity: Depends on the size of container being used
- Local water: Can be used with any water source

Appropriateness

- Local availability: Chemical coagulants are not always available; can use any container
- Time: 2+ hours
- Operation and maintenance: Follow manufacturer's instructions for specific products; need to wash container afterwards
- Lifespan: 6 months in liquid form and 1 year in solid form; containers may need to be replaced

Acceptability

- Taste, smell, colour: May be improved
- Ease of use: Follow manufacturer's instructions for specific products

Cost

- Initial purchase cost: None
- Operating cost: On-going cost to buy chemical coagulants as they are used